

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Best Available Copy

| | | |
|--|---|--|
| Applicant's or agent's file reference 02045PC/JH | FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below. | |
| International application No. PCT/SE 03/00676 | International filing date (day/month/year) 6 May 2003 | (Earliest) Priority Date (day/month/year) 7 May 2002 |
| Applicant DeLaval Holding AB et al | | |

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 2 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☐ Unity of invention is lacking (See Box II).

4. With regard to the title,

- ☒ the text is approved as submitted by the applicant.
- ☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

- ☒ the text is approved as submitted by the applicant.
- ☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No. /

- ☒ as suggested by the applicant.
- ☐ because the applicant failed to suggest a figure.
- ☐ because this figure better characterizes the invention.
- ☐ None of the figures.

1
INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 03/00676

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: A01J 5/007

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: A01J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-INTERNAL

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|--|-----------------------|
| X | WO 0027183 A1 (CHEMOMETEC A/S), 18 May 2000 (18.05.00), page 21, line 23 - line 26; page 22, line 1 - line 3; page 22, line 14 - line 24, claim 1 -- | 1,3,5-9,11, 13-15 |
| A | US 6031367 A (S.L. MANGAN), 29 February 2000 (29.02.00), abstract -- | 1,9 |
| A | EP 0880888 A2 (MAASLAND N.V.), 2 December 1998 (02.12.98), claims 25-27 -- | 1,6,7,9 |
| A | SE 0000179 A (ALFA LAVAL AGRI AB), 23 October 2002 (23.10.02), abstract -- | 3,11 |

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier application or patent but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "&" document member of the same patent family

Date of the actual completion of the international search

25 July 2003

Date of mailing of the international search report

28 -07- 2003

Name and mailing address of the ISA/
Swedish Patent Office
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Authorized officer

Magnus Thorén / SN
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INTERNATIONAL SEARCH REPORT

Information on patent family members

29/06/03

International application No.

PCT/SE 03/00676

| Patent document cited in search report | | | Publication date | Patent family member(s) | | Publication date |
|---|---------|----|---------------------|----------------------------|--------------|---------------------|
| WO | 0027183 | A1 | 18/05/00 | AT | 228294 T | 15/12/02 |
| | | | | AU | 1032100 A | 29/05/00 |
| | | | | CA | 2349549 A | 18/05/00 |
| | | | | DE | 69904228 D | 00/00/00 |
| | | | | EP | 1126757 A,B | 29/08/01 |
| | | | | SE | 1126757 T3 | |
| | | | | JP | 2002529057 T | 10/09/02 |
| US | 6031367 | A | 29/02/00 | AT | 225038 T | 15/10/02 |
| | | | | AU | 726618 B | 16/11/00 |
| | | | | AU | 2507599 A | 30/08/99 |
| | | | | DE | 69903099 D,T | 22/05/03 |
| | | | | DK | 975960 T | 03/02/03 |
| | | | | EP | 0975960 A,B | 02/02/00 |
| | | | | NZ | 338045 A | 29/06/01 |
| | | | | WO | 9941605 A,B | 19/08/99 |
| EP | 0880888 | A2 | 02/12/98 | SE | 0880888 T3 | |
| | | | | DE | 69807574 D | 00/00/00 |
| | | | | DK | 880888 T | 06/01/03 |
| | | | | EP | 1208742 A | 29/05/02 |
| | | | | NL | 1006171 C | 00/00/00 |
| SE | 0000179 | A | 23/10/02 | NONE | | |

PATENT COOPERATION TREATY

PCT

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| REC'D 18 AUG 2004 |
| WIPO PCT |

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

| | | |
|---|--|--|
| Applicant's or agent's file reference 02045PC/JH/AW | FOR FURTHER ACTION See Form PCT/IPEA/416 | |
| International application No. PCT/SE2003/000676 | International filing date (<i>day/month/year</i>) 06.05.2003 | Priority date (<i>day/month/year</i>) 07.05.2002 |
| International Patent Classification (IPC) or national classification and IPC A01J 5/007 | | |
| Applicant DeLaval Holding AB et al | | |

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 3 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

a. ☒ (*sent to the applicant and to the International Bureau*) a total of 4 sheets, as follows:

☒ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

b. ☐ (*sent to the International Bureau only*) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

| | | |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I | Basis of the report |
| <input type="checkbox"/> | Box No. II | Priority |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> | Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> | Box No. VI | Certain documents cited |
| <input type="checkbox"/> | Box No. VII | Certain defects in the international application |
| <input type="checkbox"/> | Box No. VIII | Certain observations on the international application |

| | |
|---|---|
| Date of submission of the demand 03.12.2003 | Date of completion of this report 05.08.2004 |
| Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. +46 8 667 72 88 | Authorized officer Magnus Thorén / MRO Telephone No. +46 8 782 25 00 |

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE2003/000676

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of:

- ☐ international search (under Rules 12.3 and 23.1(b))
☐ publication of the international application (under Rule 12.4)
☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

☐ the international application as originally filed/furnished

☒ the description:
 pages 1-10 as originally filed/furnished

pages* _____ received by this Authority on _____
 pages* _____ received by this Authority on _____

☒ the claims:
 pages _____ as originally filed/furnished
 pages* _____ as amended (together with any statement) under Article 19
 pages* 1-4 received by this Authority on 01.06.2004
 pages* _____ received by this Authority on _____

☒ the drawings:
 pages 1-3 as originally filed/furnished
 pages* _____ received by this Authority on _____
 pages* _____ received by this Authority on _____

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
☐ the claims, Nos. _____
☐ the drawings, sheets/figs _____
☐ the sequence listing (*specify*): _____
☐ any table(s) related to the sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
☐ the claims, Nos. _____
☐ the drawings, sheets/figs _____
☐ the sequence listing (*specify*): _____
☐ any table(s) related to the sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE2003/000676

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

1. Statement

| | | | |
|-------------------------------|--------|-------------|-----|
| Novelty (N) | Claims | <u>1-13</u> | YES |
| | Claims | | NO |
| Inventive step (IS) | Claims | <u>1-13</u> | YES |
| | Claims | | NO |
| Industrial applicability (IA) | Claims | <u>1-13</u> | YES |
| | Claims | | NO |

2. Citations and explanations (Rule 70.7)

The present invention relates to a method for separating a first quantity of milk drawn from a milking animal in an automatic milking machine from a second quantity of milk obtained from a milking animal, and it also relates to an automatic milking machine performing this method. By automatically collecting and analysing a small amount of the first quantity of milk using an on-line cell counter, a valve can be operated so as to control whether this first quantity is to be saved in a first container, a second container or be directed to a drain.

Amended claims have been issued.

The invention according to the amended claims is characterised in that an indicator of mastitis is measured and that the small amount of milk is analysed and the operation of the valve is performed only if the first indicator of mastitis is above a second threshold.

The cited WO 0027183 reveals the use of an on-line somatic cell counter, which can be used to control the handling of the milk, see page 21, lines 23-26. This handling may include directing the milk to one or several temporary milk storage means, see page 22, lines 14-24.

This document, however, does not reveal using a first indicator of mastitis.

Thus, the invention according to the amended claims is novel. This invention is not considered to be obvious to a person skilled in the art.

The invention is industrially applicable.

CLAIMS

1. A method for separating a first quantity of milk drawn from a milking animal in an automatic milking machine from a second quantity of milk drawn from a milking animal in said milking machine comprising the steps of:
- milking an animal using said automatic milking machine,
 - measuring a first indicator of mastitis,
 - automatically collecting a small representative amount of said first quantity of milk during said milking,
 - analysing at least a part of said small representative amount of milk using an on-line cell counter for counting the number of cells in said first quantity of milk,
 - operating a valve depending on the counted number of cells so that if the counted number of cells are below a first threshold said first quantity of milk is collected in a first container and if said counted number of cells are equal to or above said first threshold said first quantity of milk are directed to a drain or a second container, and wherein
 - said analysing of at least a part of said representative amount of milk, and said operation of said valve, are performed only if said first indicator of mastitis is above a second threshold.
2. The method according to claim 1, wherein the step of operating a valve further comprises the step of
- collecting said first quantity of milk in a third container if the counted number of cells are above a third threshold but below said first threshold and
 - collect said first quantity of milk in said first container if said counted number of cells are below said third threshold, thereby collecting milk of a first superior quality in said first container, milk of a second quality in said third container and milk of a

third quality is directed to said drain or collected in said second container.

3. The method according to claim 1 or 2, wherein said first indicator of mastitis is one indicator, or a selection of multiple indicators, selected from a group of indicators comprising: the conductivity of said first quantity of milk, the NAgase value of said first quantity of milk, the Urea value of said first quantity of milk, the temperature of said first quantity of milk, the milk flow from said milking animal or the milk quantity from a teat of said milking animal.
4. The method according to any of the claims above, wherein said small representative amount of milk is collected from a milk measuring device.
5. The method according to any of the claims above, wherein said first quantity of milk drawn from one milking animal is collected in an end unit for the duration of performing the somatic cell count.
6. The method according to any of the claims above, wherein said first quantity of milk is collected from a first teat of a milking animal and said second quantity of milk is collected from a second teat of said milking animal.
7. The method according to any of the claims above, wherein said first quantity of milk is collected from a first milking animal and said second quantity of milk is collected from a second milking animal.
8. An automatic milking machine comprising means for separating a first quantity of milk drawn from a milking animal in said automatic milking machine from a second quantity of milk drawn from a milking animal in said milking machine characterised in,

- a collecting device for collecting a small
representative amount of said first quantity of milk
during said milking,
- a measurement device for measuring a first indicator of
mastitis,

- an on-line cell counter for analysing at least a part
of said small representative amount of milk for counting
the number of cells in said first quantity of milk,
- at least a first valve operable to direct said first
quantity of milk depending on the counted number of
cells, so that if the counted number of cells are below a
first threshold said first quantity of milk is collected
in a first container and if said counted number of cells
are equal to or above said threshold said first quantity
of milk are directed to a drain or a second container,
and

- wherein said on-line cell counter is arranged to
analyse said first quantity of milk only if said first
indicator of mastitis is above a second threshold.

9. The automatic milking machine according to claim 8,
wherein said valve is further operable to direct said
first quantity of milk so as to:

- collect said first quantity of milk in a third
container if the counted number of cells are above a
third threshold but below said first threshold and
- collect said first quantity of milk in said first
container if said counted number of cells are below said
third threshold, thereby collecting milk of a first
superior quality in said first container, milk of a
second quality in said third container and milk of a
third quality is directed to said drain or collected in
said second container.

10. The automatic milking machine according to claim 8 or 9, wherein said measurement device for measuring a first indicator of mastitis is arranged to measure one indicator, or a selection of multiple indicators, selected from a group of indicators comprising: the conductivity of said first quantity of milk, the NAgase value of said first quantity of milk, the Urea value of said first quantity of milk, the temperature of said first quantity of milk, the milk flow from said milking animal or the milk quantity from a teat of said milking animal.

11. The automatic milking machine according to claim 8 - 10, wherein said small representative amount of milk is collected from a milk measuring device.

12. The automatic milking machine according to claim 8 - 11, wherein said first quantity of milk is collected from a first teat of a milking animal and said second quantity of milk is collected from a second teat of said milking animal.

13. The automatic milking machine according to claim 8 - 12, wherein said first quantity of milk is collected from a first milking animal and said second quantity of milk is collected from a second milking animal.

10/511582

DT01 Rec'd PCT/PTC 18 OCT 2004
PATENT

Docket No. 19200-000041/US

IN THE U.S. PATENT AND TRADEMARK OFFICE

Applicants: Epke BOSMA
Int'l Application No.: PCT/SE03/00676
Application No.: **NEW APPLICATION**
Filed: October 18, 2004
For: AUTOMATIC MILK SEPARATION

LETTER

U.S. Patent and Trademark Office
220 20th Street S.
Customer Window - Mail Stop PCT
Crystal Plaza Two, Lobby, Room 1B03
Arlington, VA 22202

October 18, 2004

Sir:

Amended sheet is attached hereto (which correspond to Article 34 amendments or to claims attached to the International Preliminary Examination Report), as required by 35 U.S.C. § 371(c)(3). The Article 34 amended sheet is incorporated in the included substitute specification and Preliminary Amendment.

Respectfully submitted,

HARNESS, DICKEY & PIERCE, P.L.C.

By: 

John A. Castellano, Reg. No. 35,094

JAC/smk

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CLAIMS

1. A method for separating a first quantity of milk drawn from a milking animal in an automatic milking machine from a second quantity of milk drawn from a milking animal in said milking machine comprising the steps of:

- milking an animal using said automatic milking machine,
- measuring a first indicator of mastitis,
- automatically collecting a small representative amount of said first quantity of milk during said milking,
- analysing at least a part of said small representative amount of milk using an on-line cell counter for counting the number of cells in said first quantity of milk,
- operating a valve depending on the counted number of cells so that if the counted number of cells are below a first threshold said first quantity of milk is collected in a first container and if said counted number of cells are equal to or above said first threshold said first quantity of milk are directed to a drain or a second container, and wherein
- said analysing of at least a part of said representative amount of milk, and said operation of said valve, are performed only if said first indicator of mastitis is above a second threshold.

2. The method according to claim 1, wherein the step of operating a valve further comprises the step of

- collecting said first quantity of milk in a third container if the counted number of cells are above a third threshold but below said first threshold and
- collect said first quantity of milk in said first container if said counted number of cells are below said third threshold, thereby collecting milk of a first superior quality in said first container, milk of a second quality in said third container and milk of a

third quality is directed to said drain or collected in said second container.

- 5 3. The method according to claim 1 or 2, wherein said first indicator of mastitis is one indicator, or a selection of multiple indicators, selected from a group of indicators comprising: the conductivity of said first quantity of milk, the NAgase value of said first quantity of milk, the Urea value of said first quantity of milk, the temperature of said first quantity of milk, the milk flow from said milking animal or the milk quantity from a teat of said milking animal.
- 10 4. The method according to any of the claims above, wherein said small representative amount of milk is collected from a milk measuring device.
- 15 5. The method according to any of the claims above, wherein said first quantity of milk drawn from one milking animal is collected in an end unit for the duration of performing the somatic cell count.
- 20 6. The method according to any of the claims above, wherein said first quantity of milk is collected from a first teat of a milking animal and said second quantity of milk is collected from a second teat of said milking animal.
- 25 7. The method according to any of the claims above, wherein said first quantity of milk is collected from a first milking animal and said second quantity of milk is collected from a second milking animal.
- 30 8. An automatic milking machine comprising means for separating a first quantity of milk drawn from a milking animal in said automatic milking machine from a second quantity of milk drawn from a milking animal in said milking machine characterised in,

- a collecting device for collecting a small representative amount of said first quantity of milk during said milking,
- a measurement device for measuring a first indicator of mastitis,
- an on-line cell counter for analysing at least a part of said small representative amount of milk for counting the number of cells in said first quantity of milk,
- at least a first valve operable to direct said first quantity of milk depending on the counted number of cells, so that if the counted number of cells are below a first threshold said first quantity of milk is collected in a first container and if said counted number of cells are equal to or above said threshold said first quantity of milk are directed to a drain or a second container, and
- wherein said on-line cell counter is arranged to analyse said first quantity of milk only if said first indicator of mastitis is above a second threshold.

9. The automatic milking machine according to claim 8, wherein said valve is further operable to direct said first quantity of milk so as to:
- collect said first quantity of milk in a third container if the counted number of cells are above a third threshold but below said first threshold and
 - collect said first quantity of milk in said first container if said counted number of cells are below said third threshold, thereby collecting milk of a first superior quality in said first container, milk of a second quality in said third container and milk of a third quality is directed to said drain or collected in said second container.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/JP03/03041

| A. CLASSIFICATION OF SUBJECT MATTER Int.Cl ⁷ B29C45/26, B29C45/00 According to International Patent Classification (IPC) or to both national classification and IPC | | |
|---|---|--|
| B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) Int.Cl ⁷ B29C45/00-45/84, 33/00-33/76 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Jitsuyo Shinan Koho 1926-1996 Toroku Jitsuyo Shinan Koho 1994-2003 Kokai Jitsuyo Shinan Koho 1971-2003 Jitsuyo Shinan Toroku Koho 1996-2003 Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) | | |
| C. DOCUMENTS CONSIDERED TO BE RELEVANT | | |
| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
| X Y A | JP 04-327916 A (Sekisui Chemical Co., Ltd.), 17 November, 1992 (17.11.92), Par. Nos. [0001], [0002], [0005], [0017], [0029]; Fig. 7 & JP 3006906 B2 | 1, 4, 11, 14 7, 8, 10 2, 3, 5, 6, 9, 12, 13, 15, 16 |
| X Y A | EP 1125764 A1 (NISSHA PRINTING CO., LTD.), 22 August, 2001 (22.08.01), Par. Nos. [0012], [0100], [0101] & CN 1328508 A & KR 1075500 A & JP 2000-109682 A & JP 2000-109773 A & WO 00/20228 A1 | 1, 4, 11, 14 7, 8, 10 2, 3, 5, 6, 9, 12, 13, 15, 16 |
| <input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex. | | |
| * Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family | | |
| Date of the actual completion of the international search 13 June, 2003 (13.06.03) | | Date of mailing of the international search report 01 July, 2003 (01.07.03) |
| Name and mailing address of the ISA/ Japanese Patent Office | | Authorized officer |
| Facsimile No. | | Telephone No. |

10. The automatic milking machine according to claim 8 or 9, wherein said measurement device for measuring a first indicator of mastitis is arranged to measure one indicator, or a selection of multiple indicators, selected from a group of indicators comprising: the conductivity of said first quantity of milk, the NAgase value of said first quantity of milk, the Urea value of said first quantity of milk, the temperature of said first quantity of milk, the milk flow from said milking animal or the milk quantity from a teat of said milking animal.

11. The automatic milking machine according to claim 8 - 10, wherein said small representative amount of milk is collected from a milk measuring device.

12. The automatic milking machine according to claim 8 - 11, wherein said first quantity of milk is collected from a first teat of a milking animal and said second quantity of milk is collected from a second teat of said milking animal.

13. The automatic milking machine according to claim 8 - 12, wherein said first quantity of milk is collected from a first milking animal and said second quantity of milk is collected from a second milking animal.

CLAIMS

1. A method for separating a first quantity of milk drawn from a milking animal in an automatic milking machine from a second quantity of milk drawn from a milking animal in said milking machine comprising the steps of:
- 5 - milking an animal using said automatic milking machine,
 - automatically collecting a small representative amount of said first quantity of milk during said milking,
 - analysing at least a part of said small representative amount of milk using an on-line cell counter for counting the number of cells in said first quantity of milk,
- 10 - operating a valve depending on the counted number of cells so that if the counted number of cells are below a first threshold said first quantity of milk is collected in a first container and if said counted number of cells are equal to or above said first threshold said first quantity of milk are directed to a drain or a second container.
- 15
2. The method according to claim 1, further comprising the additional steps of:
- 20 - measuring a first indicator of mastitis for said first quantity of milk,
 - performing said analysing of at least a part of said representative amount of milk only if said first indicator for said first quantity of milk is above a second threshold.
- 25
3. The method according to claim 1 or 2, wherein the step of operating a valve further comprises the step of
- 30 - collecting said first quantity of milk in a third container if the counted number of cells are above a third threshold but below said first threshold and
 - collect said first quantity of milk in said first

container if said counted number of cells are below said third threshold, thereby collecting milk of a first superior quality in said first container, milk of a second quality in said third container and milk of a third quality is directed to said drain or collected in said second container.

4. The method according to claim 2 or 3, wherein said first indicator is one indicator, or a selection of multiple indicators, selected from a group of indicators comprising: the conductivity of said first quantity of milk, the NAgase value of said first quantity of milk, the Urea value of said first quantity of milk, the temperature of said first quantity of milk, the milk flow from said milking animal or the milk quantity from a teat of said milking animal.

5. The method according to any of the claims above, wherein said small representative amount of milk is collected from a milk measuring device.

6. The method according to any of the claims above, wherein said first quantity of milk drawn from one milking animal is collected in an end unit for the duration of performing the somatic cell count.

7. The method according to any of the claims above, wherein said first quantity of milk is collected from a first teat of a milking animal and said second quantity of milk is collected from a second teat of said milking animal.

8. The method according to any of the claims above, wherein said first quantity of milk is collected from a first milking animal and said second quantity of milk is collected from a second milking animal.

9. An automatic milking machine comprising means for separating a first quantity of milk drawn from a milking animal in said automatic milking machine from a second quantity of milk drawn from a milking animal in said milking machine characterised in,
- 5 - a collecting device for collecting a small representative amount of said first quantity of milk during said milking,
- 10 - an on-line cell counter for analysing at least a part of said small representative amount of milk for counting the number of cells in said first quantity of milk,
- 15 - at least a first valve operable to direct said first quantity of milk depending on the counted number of cells, so that if the counted number of cells are below a first threshold said first quantity of milk is collected in a first container and if said counted number of cells are equal to or above said threshold said first quantity of milk are directed to a drain or a second container.
- 20 10. The automatic milking machine according to claim 9, further comprising a measurment device for measuring a first indicator of mastitis for said first quantity of milk, wherein said on-line cell counter analyses said first quantity of milk if said first indicator for said first quantity of milk is above a second threshold.
- 25 11. The automatic milking machine according to claim 9 or 10, wherein said valve is further operable to direct said first quantity of milk so as to:
- 30 - collect said first quantity of milk in a third container if the counted number of cells are above a third threshold but below said first threshold and
- collect said first quantity of milk in said first container if said counted number of cells are below said

third threshold, thereby collecting milk of a first superior quality in said first container, milk of a second quality in said third container and milk of a third quality is directed to said drain or collected in said second container.

12. The automatic milking machine according to claim 10, wherein said measurement device for measuring a first indicator of mastitis is arranged to measure one indicator, or a selection of multiple indicators, selected from a group of indicators comprising: the conductivity of said first quantity of milk, the NAgase value of said first quantity of milk, the Urea value of said first quantity of milk, the temperature of said first quantity of milk, the milk flow from said milking animal or the milk quantity from a teat of said milking animal.

13. The automatic milking machine according to claim 9 - 12, wherein said small representative amount of milk is collected from a milk measuring device.

14. The automatic milking machine according to claim 9 - 13, wherein said first quantity of milk is collected from a first teat of a milking animal and said second quantity of milk is collected from a second teat of said milking animal.

15. The automatic milking machine according to claim 9 - 13, wherein said first quantity of milk is collected from a first milking animal and said second quantity of milk is collected from a second milking animal.

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